Universität Stuttgart

Institut of Robust Power Semiconductor Systems

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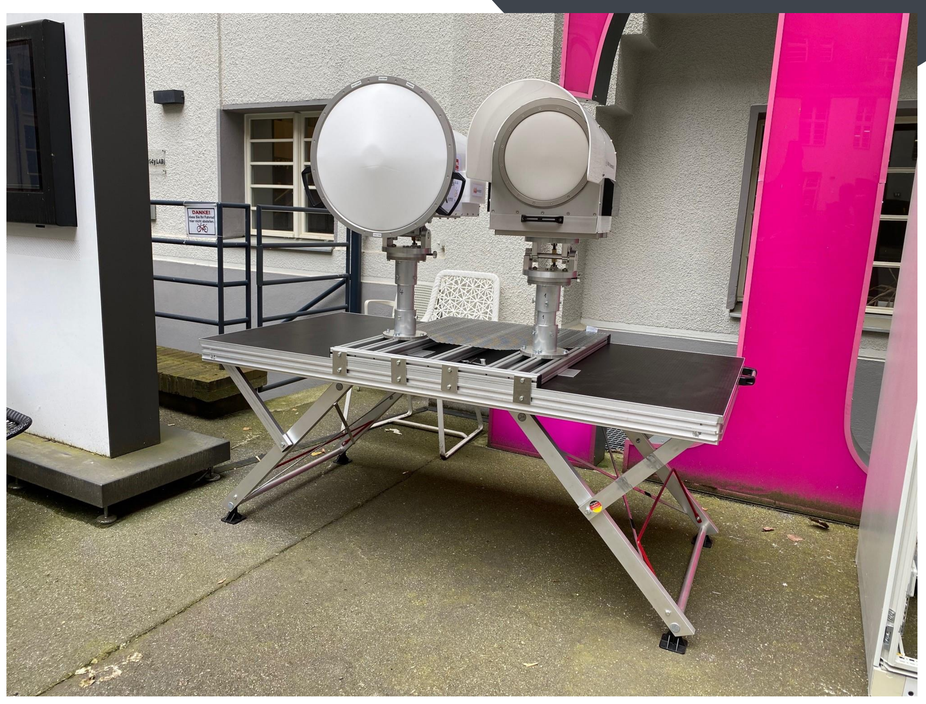
Open6GHub

Open6G-Hub - High Bandwidth Backhauling in THz-Spectrum

Tasks

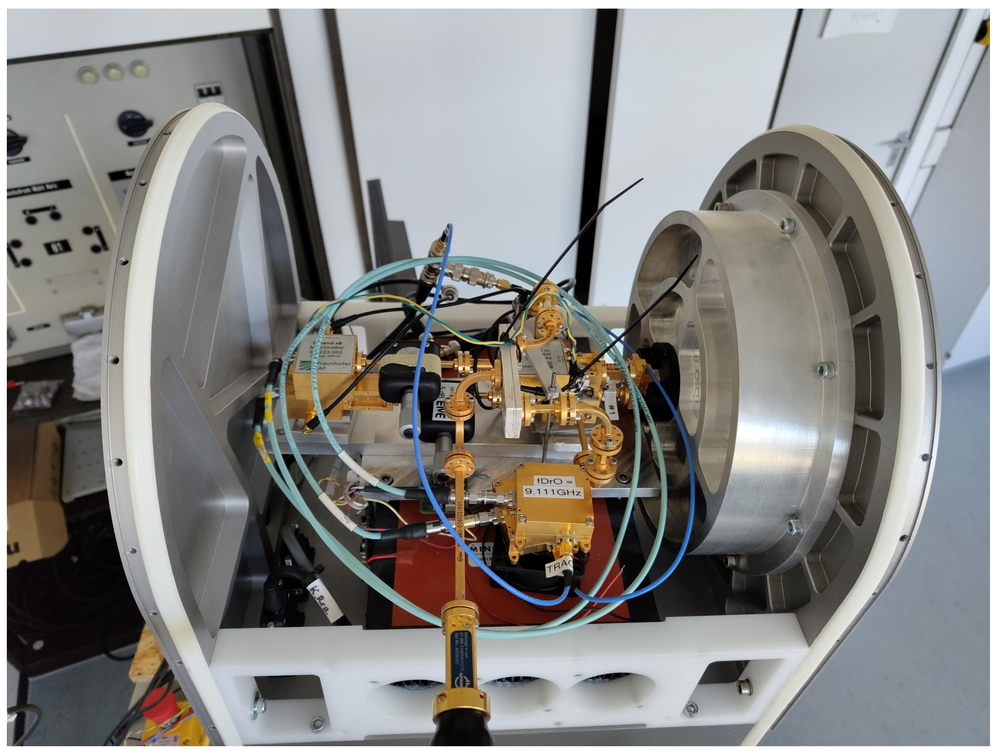
- **Setup of Ultra-High bandwidth outdoor point-to-point communication link in THz-spectrum**
- **Real-time duplex transmission at 300GHz center frequency**
- **Creation of system simulation based on measurement data**
- **Various focus of thesis possible:**
  - Research on effective alignment algorithms for high gain antennas and formulation of system level requirements for beam-steering or tracking algorithms
  - Mapping of measurement data to weather data
  - Optimization of system-partitioning in indoor-setup and Formulation of system level requirements for beam-steering or tracking algorithms



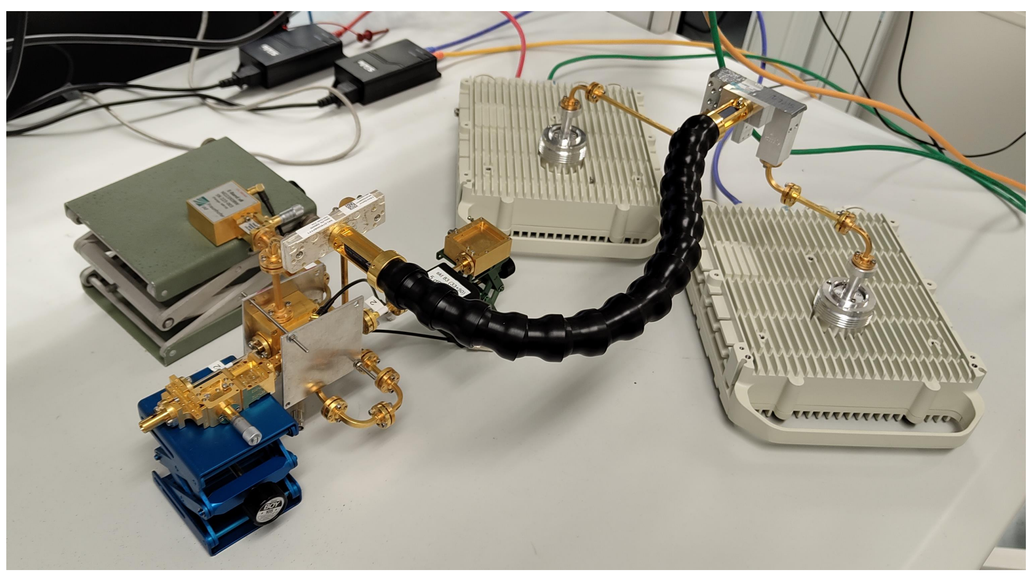
Highly directive H-band Cassegrain antenna systems

Goals

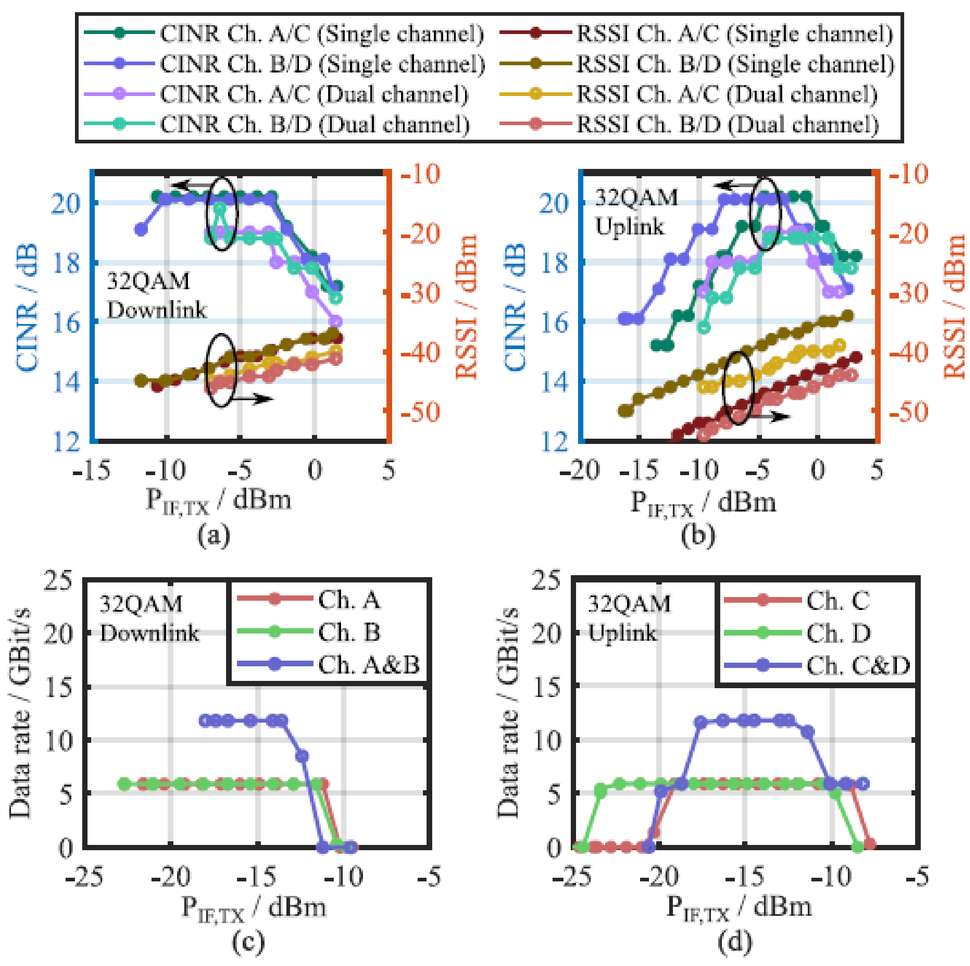
- **Realization of outdoor experiments with state of the art communication equipment**
- **Characterization of signal quality with respect to wheather, temperature or system linearity**
- **Optimization of system for future outdoor-communication setups.**



Interieur of a cassegrain antenna with frontend



Laboratory duplex setup with aggregation of multiple modems.



Linearity evaluation of multiple aggregated channels

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